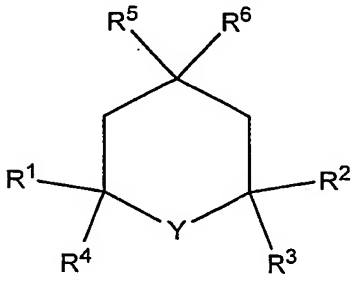
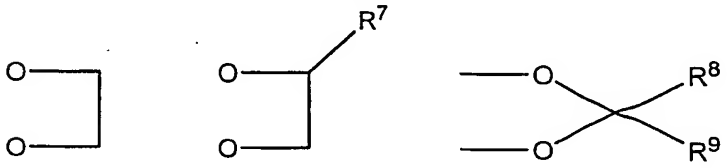
CLAIMS

1. Process for the preparation of glyceraldehyde acetonide by oxidation of 2,2-dimethyl-1,3-dioxolane-4-methanol by an oxidizing agent, characterized in that 2,2-dimethyl-1,3-dioxolane-4-methanol is oxidized by an organic N-chloro compound in the presence of an inert base and TEMPO or a TEMPO-derivative of formula 1



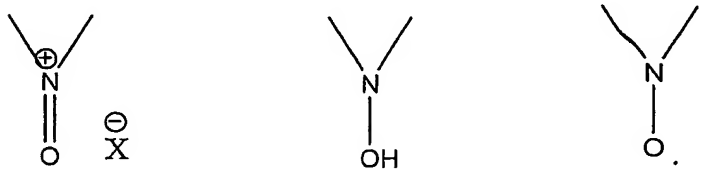
(1)

wherein R^1, R^2, R^3 and R^4 each independently stand for an alkyl group with 1 to 6 C-atoms and wherein R^5 and R^6 either both stand for H or an alkoxy group with 1 to 6 C-atoms or one stands for H and the other stands for an alkoxy group with 1 to 6 C-atoms, an alkylcarbonyloxy group with 1 to 6 C-atoms, an arylcarbonyloxy group with the carbonyloxy group having 1 to 6 C-atoms or an alkylcarbonylamino group with 1 to 6 C-atoms; or wherein R^5 and R^6 together stand for ketal groups of formula a-c



a b c

wherein R^7 stands for an alkyl group with 1 to 6 C-atoms and R^8 and R^9 each independently stand for H or an alkyl group with 1 to 6 C-atoms and wherein Y stands for a group of general formula d-f



d e f

wherein X^- stands for an anion.

2. Process according to claim 1, characterized in that enantiomerically enriched glyceraldehyde acetonide is prepared by oxidation of the corresponding enantiomerically enriched 2,2-dimethyl-1,3-dioxolane-4-methanol.

3. Process according to claim 1 or claim 2, characterized in that the organic N-chloro compound is trichloroisocyanuric acid or dichlorodimethylhydantoin.

4. Process according to any one of claims 1-3, characterized in that 2,2-dimethyl-1,3-dioxolane-4-methanol is oxidized in the presence of TEMPO.

5. Process according to any one of claims 1-4, characterized in that the inert base has a conjugated acid with a $pK_a > 2$.

6. Process according to any one of claims 1-5, characterized in that the amount of inert base is at least 0.8 molar equivalent based on the theoretically maximal molar amount of HCl that can be formed in the reaction.

7. Process according to any one of claims 1-6, characterized in that the inert base is sodium acetate or sodium bicarbonate.

8. Process according to any one of claims 1-7, characterized in that the process is performed at a temperature between 15 and 80°C.

9. Process according to any one of claims 1-8, characterized in that the TEMPO or a TEMPO-derivative of formula 1, wherein R^1-R^6 are as defined above, is added to a mixture of 2,2-dimethyl-1,3-dioxolane-4-methanol, the organic N-chloro compound and the inert base in a solvent.

10. Process according to any one of claims 1-9, characterized in that the amount of organic N-chloro compound is such that there is at least 0.5 molar equivalent active chlorine based on the amount of 2,2-dimethyl-1,3-dioxolane-4-methanol.

11. Process according to any one of claims 1-10, characterized in that an amount of TEMPO or a TEMPO-derivative of formula 1, wherein R^1-R^6 are as defined above, of between 0.1 and 1 mole% based on the amount of 2,2-dimethyl-1,3-dioxolane-4-methanol is used.